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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/981,360	12/18/1997	Kari Kirjavainen	U 011574-0	3410
140	7590	04/12/2006	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			BRUENJES, CHRISTOPHER P	
			ART UNIT	PAPER NUMBER
			1772	
DATE MAILED: 04/12/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 08/981,360	Applicant(s) KIRJAVAINEN ET AL.	
	Examiner Christopher P. Bruenjes	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on October 10, 2005 and February 2, 2006 have been entered.

WITHDRAWN REJECTIONS

2. The 35 U.S.C. 112 rejections of claims 1-12, 15, and 18-22 of record in the Office Action mailed August 2, 2005, Pages 2-3 Paragraph 3, have been withdrawn due to Applicant's amendments in the Paper filed October 10, 2005.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. The 35 U.S.C. 102 rejections of claims 1-2, 5-6, 8, 15, 18-19, and 21-22 as anticipated by Maimets are repeated for the reasons set forth in the previous Office Actions mailed March 15, 2005, Pages 4-6 Paragraph 7, and August 2, 2005, Pages 3-4 Paragraph 4.

5. Claims 1-2, 6-8, 15, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Doucet (USPN 4,364,882).

Regarding claim 1, Doucet anticipates a tubular product comprising at least a tubular base layer (represented by the outer wall of the tube) and the innermost layer made of plastic by continuous extrusion (see abstract). The base layer and the innermost layer have poor adhesion to each other since an intermediate filling material is placed between the two layers (see abstract). The filling material is formed of foamed plastic (col.2, 1.10-13). The filling material acts as a tying layer being of adhesion plastic tying the innermost and base layers together (col.3, 1.12-17). All three layers are meltingly extruded simultaneously. Therefore, the tying layer is meltingly extruded simultaneously with the innermost layer against the base layer. Regarding claim 2, the limitation that "the extrusions are in the ground" is an intended use/functional limitation that receives little patentable weight in an article

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claim. Articles are defined by what the article is, not what it does or where it is located. In this case, Doucet teaches that the tubular product is used as large dimension underground pipelines for drainage of sewage and rainwater (see abstract and col.1, 1.10-15). Regarding claim 6, the tying layer contains a filling agent (col.3, 1.21-24). Regarding claim 7, the innermost layer is extruded therefore it is oriented. Regarding claims 8 and 19-21, the tying layer is extruded foamed plastic therefore it has stretched foam bubbles. Regarding claims 15 and 22, Doucet anticipates a tubular product comprising a tubular base layer (represented by the outer layer), a tubular innermost layer made of plastic by continuous extrusion (represented by the inner layer), and a tubular tie layer of foamed plastic between and itself adhered to the base layer and the innermost layer (represented by the filling material). The tie layer is made of meltingly extruded adhesion plastic, is extruded simultaneously with the innermost layer against the base layer and has better adhesion to the base and innermost layers than the base and innermost layers have to each other to tie the base and innermost layers together (see abstract).

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6. Claims 1-3, 5-8, 15, and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishidome et al (WO 89/06595 A1).

Regarding claim 1, Nishidome et al anticipate a tubular product comprising at least a tubular base layer (reference number 11, Figure 7) and an innermost layer (reference number 13, Figure 7). The innermost layer is made of plastic by continuous extrusion (p.10, 1.4-6). The base layer and the innermost layer have poor adhesion to each other because the base layer is a metal and the inner layer is a plastic. A layer of foamed plastic (reference number 14, Figure 7) is between and itself adhered to the base layer and the innermost layer as a tying layer therebetween, the layer of foamed plastic being of adhesion plastic (p.11, 1.1-22). The limitation that the "adhesion plastic is meltingly extruded simultaneously with the innermost layer against the base layer" is a process limitation and therefore receives little patentable weight in an article claim. Articles are defined by structure alone, and process limitations are only given weight in article claims with regard to the structure in which the process provides the article. In this case, the structure provided by the process limitation is that the foamed adhesion plastic tie layer is adhered directly to the innermost and base layers. What method is used to arrive

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at this structure is not germane to the patentability of the article claim. Therefore, the coated foaming adhesive taught by Nishidome et al forming the tie layer reads on Applicant's claimed tie layer. Regarding claim 2, the limitation that "the extrusions are in the ground" is an intended use/functional limitation that receives little patentable weight in an article claim. Articles are defined by what the article is, not what it does or where it is located. In this case, Nishidome et al teach a tubular product meeting the structural limitations and would be capable of being placed in the ground. Regarding claim 3, the base layer is made of metal (see abstract). Regarding claim 5, the inner surfaces of the tying layer and innermost layer are substantially smoother than an inner surface of the base layer, because the base layer is metal and the foam of the tie layer is used to provide a uniform thickness for the interior innermost layer. Regarding claim 6, the tying layer contains a filling agent (p.11, 1.9-13). Regarding claim 7, the innermost layer is made of oriented plastic, because the plastic is formed by extrusion, which inherently orients the plastic to at least some extent. Regarding claims 8 and 18-21, the tying layer comprises stretched foam bubbles because the foam bubbles stretch in order to expand the foam. Regarding claims 15 and

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22, Nishidome et al meet the limitations of claims 15 and 22 for the same reasons as presented above with regard to claim 1.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. The 35 U.S.C. 103 rejections of claims 3-4 over Maimets in view of Bast are repeated for the reasons set forth in the previous Office Action mailed March 15, 2005, Pages 7-8 Paragraph 8.

9. The 35 U.S.C. 103 rejections of claims 7, 9 and 20 over Maimets in view of Stanley are repeated for the reasons set forth in the previous Office Action mailed March 15, 2005, Pages 8-10 Paragraph 9.

10. The 35 U.S.C. 103 rejection of claim 10 over Maimets in view of Stanley and Donuiff is repeated for the reasons set forth in the previous Office Action mailed March 15, 2005, Pages 10-12 Paragraph 10.

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11. The 35 U.S.C. 103 rejection of claim 11 over Maimets in view of Cook is repeated for the reasons set forth in the previous Office Action mailed March 15, 2005, Pages 12-13 Paragraph 11.

12. The 35 U.S.C. 103 rejection of claim 12 over Maimets in view of Hunter is repeated for the reasons set forth in the previous Office Action mailed March 15, 2005, Pages 13-14 Paragraph 12.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet in view of Stanley (USPN 4,640,313).

Doucet teaches all that is claimed in claim 1 as presented above, and teaches that the tying layer is formed of polyethylene foam (col.3, 1.18-20). Doucet fails to teach that the polyethylene forming the tying layer is cross-linked. However, Stanley teaches that foaming of polyethylene foam used in forming intermediate layers of tubular products is cross-linked in order to aid in foaming the material (col.8, 1.38-39). One of ordinary skill in the art would have recognized that material such as polyethylene foam is cross-linked in order to aid foaming, when forming intermediate layers of tubular products, as taught by Stanley.

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Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to add a cross-linking agent to the polyethylene foam of Doucet to form cross-linked polyethylene foam in order to aid in foaming of the polyethylene when forming the intermediate layer of Doucet, as taught by Stanley.

14. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet in view of Stanley (USPN 4,640,313) and further in view of Donuiff et al (USPN 4,870,111).

Doucet teaches all that is claimed in claims 1 as discussed above, but fail to explicitly teach forming the tie layer from grafted polyethylene. Stanley provides motivation for cross-linking the polyethylene foam of Doucet for the reasons presented above. Donuiff et al teach that polyolefin foam is more resilient and flexible than polystyrene foam, but has a narrow molding range unless the foam is crosslinked (col.1, 1.36-59). Donuiff et al also teach that moldable crosslinked polyethylene is formed in several ways including adding a crosslinking agent, or radiation (col.2, 1.35-64), but these methods are very expensive. Donuiff et al further teaches that an improved method, which would not cost as much to manufacture and have superior properties, includes taking a silane-modified

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polyolefin or grafted polyethylene containing a silanol condensation catalyst with a blowing agent to produce moldable foamed beads which cross link internally when exposed to moisture (col.3, 1.31-35). One of ordinary skill in the art would have recognized that a polyethylene foam should be cross linked in order to make the foam more moldable and therefore able to be extruded, and that a grafted polyolefin containing a catalyst is less expensive to form into a moldable cross linked foam than a polyolefin combined with a cross linking agent, as taught by Donuiff et al.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to substitute a grafted polyolefin of Donuiff et al for the polyolefin of Stanley and Doucet, in order to make the crosslinking process before foaming the tie layer less expensive, as taught by Donuiff et al.

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet in view of Cook et al (USPN 4,386,629).

Doucet teaches all that is claimed in claim 1 as presented above. Doucet fails to teach the type of joint used to join multiple pipes together. However, Cook et al teaches that a cross-linked plastic sleeve that has a diameter compressed to a

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smaller size than normal prior to heating, which causes the sleeve to attempt to expand to its normal size before pressing up against the inner surface of the two tubular products being joined, is a well-known joint used in the art of forming pipe lines (see abstract and col.4, l.23-27). One of ordinary skill in the art would have recognized that a cross-linked plastic sleeve having a diameter compressed prior to heating, in which the sleeve presses against the pipes joined, is a well known joint in the art of pipeline formation, as taught by Cook et al.

Therefore, it would have been obvious to one having ordinary skill in the art to use the joint of Cook et al as a joint in Doucet in order to connect two tubular products, since it is well-known in the art to join multiple tubular products together to form a pipeline and the joint of Cook et al is a well-known joint in the art, as taught by Cook et al.

16. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet in view of Hunter (USPN 4,277,091).

Doucet teaches all that is claimed in claim 1 as presented above. Doucet fails to teach the type of joint used to join multiple pipes together. However, Hunter teaches a well-known joint used to interlock lengths of lined conduit to form a continuously lined conduit (col.1, l.7-12). When forming

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connections between conduits having a liner such as the conduits of Doucet the joint cannot be formed by traditional methods such as welding or traditional interference fit joints (col.1-2).

Instead in order to preserve the lined conduits at the connection point a sleeve is situated inside the joint (reference 30, Figure 2) and a collar that clamps by means of its heat-recoverability is situated outside the joint (reference number 20, Figure 2 and col.2, 1.56-67). One of ordinary skill in the art would have recognized that a sleeve and clamping collar combination joint is used when joining two lined conduits, in order to preserve the lined conduits at the connection point, as taught by Hunter.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to use the sleeve situated inside the joint and the clamping collar situated outside the joint of Hunter as a joint to connect two tubular products of Doucet, in order to preserve the lined conduits at the connection point, as taught by Hunter.

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishidome et al in view of Cook et al (USPN 4,386,629).

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Nishidome et al teach all that is claimed in claim 1 as presented above. Nishidome et al fail to teach the type of joint used to join multiple pipes together. However, Cook et al teaches that a cross-linked plastic sleeve that has a diameter compressed to a smaller size than normal prior to heating, which causes the sleeve to attempt to expand to its normal size before pressing up against the inner surface of the two tubular products being joined, is a well-known joint used in the art of forming pipe lines (see abstract and col.4, 1.23-27). One of ordinary skill in the art would have recognized that a cross-linked plastic sleeve having a diameter compressed prior to heating, in which the sleeve presses against the pipes joined, is a well known joint in the art of pipeline formation, as taught by Cook et al.

Therefore, it would have been obvious to one having ordinary skill in the art to use the joint of Cook et al as a joint in Nishidome et al in order to connect two tubular products, since it is well-known in the art to join multiple tubular products together to form a pipeline and the joint of Cook et al is a well-known joint in the art, as taught by Cook et al.

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18. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishidome et al in view of Hunter (USPN 4,277,091).

Nishidome et al teach all that is claimed in claim 1 as presented above. Nishidome et al fail to teach the type of joint used to join multiple pipes together. However, Hunter teaches a well-known joint used to interlock lengths of lined conduit to form a continuously lined conduit (col.1, 1.7-12). When forming connections between conduits having a liner such as the conduits of Nishidome et al the joint cannot be formed by traditional methods such as welding or traditional interference fit joints (col.1-2). Instead in order to preserve the lined conduits at the connection point a sleeve is situated inside the joint (reference 30, Figure 2) and a collar that clamps by means of its heat-recoverability is situated outside the joint (reference number 20, Figure 2 and col.2, 1.56-67). One of ordinary skill in the art would have recognized that a sleeve and clamping collar combination joint is used when joining two lined conduits, in order to preserve the lined conduits at the connection point, as taught by Hunter.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to use the sleeve situated inside the joint and the

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clamping collar situated outside the joint of Hunter as a joint to connect two tubular products of Nishidome et al, in order to preserve the lined conduits at the connection point, as taught by Hunter.

ANSWERS TO APPLICANT'S ARGUMENTS

19. Applicant's arguments regarding the 35 U.S.C. 112 rejections of record have been considered but they are moot since the rejections have been withdrawn.

20. Applicant's arguments regarding the 35 U.S.C. 102 rejections of claims 1-2, 5-6, 8, 15, 18-19, and 21-22 as anticipated by Maimets have been fully considered but they are not persuasive.

In response to Applicant's argument that Maimets fails to teach the tying layer claimed in claims 1, 15, and 22, the limitations "a layer of foamed plastic", "the tie layer is made of meltingly extruded adhesion plastic", and "a layer of foamed plastic" in each of the independent claims respectively do not limit the tying layer to only a foamed adhesion plastic. This is especially true since claim 6 requires that a filling agent be contained in the tying layer. Because the claimed tying layer is broadly recited it must be given its broadest

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reasonable interpretation. In this case, the broadest reasonable interpretation is a layer comprising foamed plastic that is adhesive. How the foamed plastic possesses its adhesive properties is not germane to the patentability of the claim as it is currently written; only that it is adhesive. Maimets teaches a foamed plastic material that is filled with grout that is adhesive to the innermost layer and the base layer. Therefore, even though the grout may be the part of the foamed plastic that causes the plastic to be adhesive, the foamed plastic layer is still adhesive, because the grout is within the foamed plastic layer and because the layer must be considered as a whole, the foamed plastic layer containing the grout reads on the layer of foamed plastic claimed.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spence et al (USPN 4,846,648).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P. Bruenjes

Examiner

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CPB *CPB*

April 6, 2006

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER

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4/7/06